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10/687,997	10/17/2003	Bo Shen	200208236-1	4419

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EXAMINER	
EL CHANTI, HUSSEIN A	
ART UNIT	**PAPER NUMBER**
2157	

NOTIFICATION DATE	DELIVERY MODE
01/25/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/687,997	SHEN ET AL.	
	Examiner	Art Unit	
	Hussein A. El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *8 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to amendment received on Oct. 24, 2007. Claims 1-15 were amended. Claims 1-15 are pending examination.

Drawings

2. The drawings were received on Oct. 24, 2007. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Vahalia et al., U.S. Patent No. 5,933,603 (referred to hereafter as Vahalia).

As to claim 1, Vahalia teaches a network proxy server, comprising:

a network connection configured to receive content-object requests generated by a plurality of clients, said content-object requests requesting a content-object from a server of clients (see col. 2 lines 50-67, stream servers intercept and service client requests on behalf of the file server);

a plurality of moving window buffers coupled with said network connection, said plurality of moving-window buffers being configured to service said content-object requests (see col. 23 lines 1-46, each server has a portion of the movie and each client has a sliding window); and

first and second content buffers coupled with said network connection, said first content buffer being configured to duplicate a first portion of a content passing from said server to said plurality of clients, cache said first portion, and provide said first portion to a subsequent client in response to a request for said first portion, and said second content buffer being configured to duplicate a second portion of said content and cache said second portion, and wherein said first and second content buffers are further configured to simultaneously provide said first and second portions of said content to said subsequent client in response to a request for said first and second portions (see col. 23 lines 1-col.24 lines 63, each video is cached on a plurality of servers, some portions may be duplicated on a plurality of servers and load balancing is used to service a plurality client requests).

As to claim, 2, Vahalia teaches a system of delivering objects from servers to clients comprising:

receiving a first request for an content object from a first client (see col. 18 lines 24-56, client sends a request for a movie which is fetched as objects on a stream server);

allocating a first running buffer (see col. 18 lines 62-col. 19 lines 32, a cache slot in a buffer server is allocated to fetch the requested segment);

retrieving the content object as a datastream having a start point and inserting the datastream into the first buffer while delivering the same datastream to the first

client (see col. 19 lines 28-31 and col. 18 lines 24-35, the requested object with relative start times are downloaded to the cache slot in the server);

when the first buffer is filled, deleting data from the start point of the datastream while continuing to insert retrieved data into the buffer, so that the buffer contains a moving window of the retrieved data (see col. 18 lines 24-56, the objects are fetched until the buffer is full and then starts rewriting data in the buffer that is already streamed to the client);

receiving a second request for the content object from a client (see col. 21 lines 25-34, a new request is received);

if the second request is received while the start point of the datastream is still in the first buffer, serving the content object directly from the first buffer (see col. 21 lines 44-57, if the request falls within the objects that are fetched, then the request is serviced); and

if the second request is received after the start point has been deleted from the first buffer, retrieving the portion of the content object that has been deleted from the first buffer, commencing from the start point, and delivering the same as a datastream while simultaneously delivering a different part of the content object from the first buffer (see col. 22 lines 27-37, if the request falls behind the existing stream, the requested objects are cached and delivered to the second client while simultaneously delivering the stream to the first client).

As to claim 3, Vahalia teaches the system of claim 2, further comprising, allocating a second running buffer and inserting the datastream representing the portion of the content object not in the first running buffer into the second running buffer while delivering the same datastream (see col. 22 lines 27-37, the buffer space is allocated until it catches up with the first buffer).

As to claim 4, Vahalia teaches the system of claim 3 further comprising for a third request for the content object received after the second running buffer has been allocated;

checking whether the start point is cached in an existing running buffer (see col. 24 lines 3-43);

if the start point is cached in an existing running buffer, serving the content object as a datastream from each of the running buffers simultaneously (see col. 24 lines 3-43, the requested objects are searched in all the available buffer servers);

if the start point is not cached in an existing running buffer, allocating a third running buffer (see col. 24 lines 44-63;

retrieving the portion of the content object not in an existing running buffer as a datastream and inserting the datastream into the third running buffer while delivering the same datastream and simultaneously delivering a different part of the content object from other existing running buffers (see col. 24 lines 44-63, if the requested object is not found, then buffer space is allocated to fetch the requested objects).

As to claim 5, Vahalia teaches the system of claim 2, wherein the first buffer or another buffer has a size that is determined as a proportion of an advertised length of the content object (see col. 21 lines 59-col. 22 lines 22, the size of the requested object is compared to the available free space in the cache server).

As to claim 6, Vahalia teaches the system of claim 2, further comprising: modifying the size of the first buffer or another buffer in response to an analysis of frequency of requests for the content object, in order to optimize allocation of memory (see col. 25 lines 6-62, more popular movies or objects are duplicated while less popular movies are removed).

As to claim 7, Vahalia teaches the system of claim 2, further comprising, prior to allocating the first buffer or another buffer, applying a replacement algorithm to reclaim buffers from less frequently requested objects (see col. 25 lines 6-62, more popular movies or objects are duplicated while less popular movies are removed).

As to claim 9, Vahalia teaches a computer data storage media having stored thereon software performing the following functions:

receiving a first request for an content object (see col. 18 lines 24-56, client sends a request for a movie which is fetched as objects on a stream server);

allocating a first running buffer (see col. 18 lines 62-col. 19 lines 32, a cache slot in a buffer server is allocated to fetch the requested segment);

retrieving the content object as a datastream having a start point and inserting the datastream into the first buffer while delivering the same datastream (see col. 19 lines 28-31 and col. 18 lines 24-35, the requested object with relative start times are downloaded to the cache slot in the server);

when the first buffer is filled, deleting data from the start point of the datastream while continuing to insert retrieved data into the buffer, so that the buffer contains a moving window of the retrieved data (see col. 18 lines 24-56, the objects are fetched until the buffer is full and then starts rewriting data in the buffer that is already streamed to the client);

receiving a second request for the content object (see col. 21 lines 25-34, a new request is received);

if the second request is received while the start point of the datastream is in the first buffer, serving the content object directly from the first buffer (see col. 21 lines 44-57, if the request falls within the objects that are fetched, then the request is serviced);

if the second request is received after the start point has been deleted from the first buffer: retrieving the portion of the content object that has been deleted from the first buffer, commencing from the start point, and delivering the same as a datastream while simultaneously delivering a different part of the content object as a datastream from the first buffer (see col. 22 lines 27-37, if the request falls behind the existing stream, the requested objects are cached and delivered to the second client while simultaneously delivering the stream to the first client).

As to claim 10, Vahalia teaches the computer data storage media of claim 9, wherein the software performs the following further functions:

if the second request is received after the start point of the datastream has been deleted from the first buffer, allocating a second running buffer and inserting the datastream representing the portion of the content object not in the first running buffer into the second running buffer while delivering the same datastream (see col. 22 lines 27-37, the buffer space is allocated until it catches up with the first buffer).

As to claim 11, Vahalia teaches the computer data storage media of claim 9, wherein the software performs the following further functions:

receiving a third request for the content object after the second running buffer has been allocated; checking whether the start point is cached in an existing running buffer (see col. 24 lines 3-43);

if the start point is cached in an existing running buffer, serving the content object as a datastream from each of the running buffers simultaneously (see col. 24 lines 3-43, the requested objects are searched in all the available buffer servers);

if the start point is not cached in an existing running buffer:

allocating a third running buffer; retrieving the portion of the content object not in an existing running buffer as a datastream and inserting the datastream into the third running buffer while delivering the same datastream and simultaneously delivering a different part of the content object as a datastream from other existing running buffers

(see col. 24 lines 44-63, if the requested object is not found, then buffer space is allocated to fetch the requested objects).

As to claim 12, Vahalia teaches the computer data storage media of claim 9, wherein the software performs the following further functions: determining the advertised length of the content object; setting the size of the first buffer or another buffer as a proportion of an advertised length of the content object (see col. 21 lines 59-col. 22 lines 22, the size of the requested object is compared to the available free space in the cache server).

As to claim 13, Vahalia teaches the computer data storage media of claim 9, wherein: analyzing frequency of requests for the content object; and modifying the size of the first buffer or another buffer in response to the analysis of the frequency of requests for the content object in order to optimize allocation of memory (see col. 25 lines 6-62, more popular movies or objects are duplicated while less popular movies are removed).

As to claim 14, Vahalia teaches the computer data storage media of claim 9, wherein: prior to allocating the first buffer or another buffer checking if memory is available; if there is not enough memory available to allocate a buffer, applying a replacement algorithm to reclaim buffers from less frequently requested objects (see col. 25 lines 6-62, more popular movies or objects are duplicated while less popular movies are removed).

Allowable Subject Matter

4. Claim8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hussein Elchanti

Jan. 14, 2007